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Thastrup, Ole

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<141> 2001-06-01

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<212> DNA

<213> Aequorea victoria

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ctt gtt gaa tta gat ggc gat gtt aat ggg caa aaa ttc tct gtt agt      97
Leu Val Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser
15                  20                  25                  30

gga gag ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt     145
Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe
                35                  40                  45

att tgc act act ggg aag cta cct gtt cca tgg cca acg ctt gtc act     193
Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr
            50                  55                  60

act ttc tct tat ggt gtt caa tgc ttt tca aga tac cca gat cat atg     241
Thr Phe Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met
        65                  70                  75

aaa cag cat gac ttt ttc aag agt gcc atg ccc gaa ggt tat gta cag     289
Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln
    80                  85                  90

gaa aga act ata ttt tac aaa gat gac ggg aac tac aag aca cgt gct     337
Glu Arg Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala
95                  100                 105                 110

gaa gtc aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa     385
Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys
                115                 120                 125

ggt att gat ttt aaa gaa gat gga aac att ctt gga cac aaa atg gaa     433
Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu
            130                 135                 140

tac aac tat aac tca cat aat gta tac atc atg gca gac aaa cca aag     481
Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys
        145                 150                 155

aat gga atc aaa gtt aac ttc aaa att aga cac aac att aaa gat gga     529
Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly
    160                 165                 170

agc gtt caa tta gca gac cat tat caa caa aat act cca att ggc gat     577
Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp
175                 180                 185                 190

ggc cct gtc ctt tta cca gac aac cat tac ctg tcc acg caa tct gcc     625
Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala
                195                 200                 205

ctt tcc aaa gat ccc aac gaa aag aga gat cac atg atc ctt ctt gag     673
Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu
            210                 215                 220

ttt gta aca gct gct ggg att aca cat ggc atg gat gaa cta tac aaa     721
Phe Val Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
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taaatgtcca gacttccaat tgacactaaa gggatccgaa ttc                     764
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<212> PRT

<213> Aequorea victoria

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            20                  25                  30

Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
        35                  40                  45

Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe
    50                  55                  60

Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
65                  70                  75                  80

His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
                85                  90                  95

Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
            100                 105                 110

Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
        115                 120                 125

Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
    130                 135                 140

Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
145                 150                 155                 160

Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val
                165                 170                 175
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Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
            180                 185                 190

Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
        195                 200                 205

Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val
    210                 215                 220

Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
225                 230                 235
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gaa tta gat ggc gat gtt aat ggg caa aaa ttc tcc gtt agt gga gag       96
Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser Gly Glu
            20                  25                  30

ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt att tgc      144
Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
        35                  40                  45

act act ggg aag cta cct gtt cca tgg cca acg ctt gtc act act ctc      192
Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
    50                  55                  60

tct cat ggt gtt caa tgc ttt tct aga tac cca gat cat atg aaa cag      240
Ser His Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
65                  70                  75                  80
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cat gac ttt ttc aag agt gcc atg ccc gaa ggt tat gta cag gaa aga      288
His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
                85                  90                  95

act ata ttt tac aaa gat gac ggg aac tac aag aca cgt gct gaa gtc      336
Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
            100                 105                 110

aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa ggt att      384
Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
        115                 120                 125

gat ttt aaa gaa gat gga aac att ctt gga cac aaa atg gaa tac aat      432
Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
    130                 135                 140

tat aac tca cat aat gta tac atc atg gca gac aaa cca aag aat ggc      480
Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
145                 150                 155                 160

atc aaa gtt aac ttc aaa att aga cac aac att aaa gat gga agc gtt      528
Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val
                165                 170                 175

caa tta gca gac cat tat caa caa aat act cca att ggc gat ggc cct      576
Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
            180                 185                 190

gtc ctt tta cca gac aac cat tac ctg tcc acg caa tct gcc ctt tcc      624
Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
        195                 200                 205

aaa gat ccc aac gaa aag aga gat cac atg atc ctt ctt gag ttt gta      672
Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val
    210                 215                 220

aca gct gct ggg att aca cat ggc atg gat gaa cta tac aaa taa          717
Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
225                 230                 235

atgtccagac ttccaattga cactaaaggg atccgaattc                         757
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<212> PRT

<213> Aequorea victoria

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Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val

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20 25 30

Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
35 40 45

Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
50 55 60

Ser His Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
65 70 75 80

His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
85 90 95

Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
100 105 110

Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
115 120 125

Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
130 135 140

Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
145 150 155 160

Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val
165 170 175

Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
180 185 190

Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
195 200 205

Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val
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Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
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1               5                   10                  15

gaa tta gat ggc gat gtt aat ggg caa aaa ttc tct gtt agt gga gag       96
Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser Gly Glu
            20                  25                  30

ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt att tgc      144
Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
        35                  40                  45

act act ggg aag cta cct gtt cca tgg cca acg ctt gtc act act ctc      192
Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
    50                  55                  60

tct tat ggt gtt caa tgc ttt tct aga tac cca gat cat atg aaa cag      240
Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
65                  70                  75                  80

cat gac ttt ttc aag agt gcc atg ccc gaa ggt tat gta cag gaa aga      288
His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
                85                  90                  95

act ata ttt tac aaa gat gac ggg aac tac aag aca cgt gct gaa gtc      336
Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
            100                 105                 110

aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa ggt att      384
Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
        115                 120                 125

gat ttt aaa gaa gat gga aac att ctt gga cac aaa atg gaa tac aat      432
Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
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    130                 135                 140

tat aac tca cat aat gta tac atc atg gca gac aaa cca aag aat ggc      480
Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
145                 150                 155                 160

atg gaa tac aat tat aac tca cat aat gta tac atc atg gca gac aaa      528
Met Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys
                165                 170                 175

cca aag aat ggc atc aaa gtt aac ttc aaa att aga cac aac att aaa      576
Pro Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys
            180                 185                 190

gat gga agc gtt caa tta gca gac cat tat caa caa aat act cca att      624
Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile
        195                 200                 205

ggc gat ggc cct gtc ctt tta cca gac aac cat tac ctg tcc acg caa      672
Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln
    210                 215                 220

tct gcc ctt tcc aaa gat ccc aac gaa aag aga gat cac atg atc ctt      720
Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu
225                 230                 235                 240

ctt gag ttt gta aca gct gct ggg att aca cat ggc atg gat gaa cta      768
Leu Glu Phe Val Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu
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<212> PRT

<213> Aequorea victoria

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            20                  25                  30

Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
        35                  40                  45
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Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
50 55 60

Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
65 70 75 80

His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
85 90 95

Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
100 105 110

Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
115 120 125

Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
130 135 140

Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
145 150 155 160

Met Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys
165 170 175

Pro Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys
180 185 190

Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile
195 200 205

Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln
210 215 220

Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu
225 230 235 240

Leu Glu Phe Val Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu
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<212> DNA

<213> Aequorea victoria

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1               5                   10                  15

gaa tta gat ggc gat gtt aat ggg caa aaa ttc tct gtt agt gga gag       96
Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser Gly Glu
            20                  25                  30

ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt att tgc      144
Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
        35                  40                  45

act act ggg aag cta cct gtt cca tgg cca acg ctt gtc act act ctc      192
Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
    50                  55                  60

act tat ggt gtt caa tgc ttt tct aga tac cca gat cat atg aaa cag      240
Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
65                  70                  75                  80

cat gac ttt ttc aag agt gcc atg ccc gaa ggt tat gta cag gaa aga      288
His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
                85                  90                  95

act ata ttt tac aaa gat gac ggg aac tac aag aca cgt gct gaa gtc      336
Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
            100                 105                 110

aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa ggt att      384
Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
        115                 120                 125

gat ttt aaa gaa gat gga aac att ctt gga cac aaa atg gaa tac aat      432
Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
    130                 135                 140
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tat aac tca cat aat gta tac atc atg gca gac aaa cca aag aat ggc      480
Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
145                 150                 155                 160

atc aaa gtt aac ttc aaa att aga cac aac att aaa gat gga agc gtt      528
Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val
                165                 170                 175

caa tta gca gac cat tat caa caa aat act cca att ggc gat ggc cct      576
Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
            180                 185                 190

gtc ctt tta cca gac aac cat tac ctg tcc acg caa tct gcc ctt tcc      624
Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
        195                 200                 205

aaa gat ccc aac gaa aag aga gat cac atg atc ctt ctt gag ttt gta      672
Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val
    210                 215                 220

aca gct gct ggg att aca cat ggc atg gat gaa cta tac aaa taa          717
Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
225                 230                 235

atgtccagac ttccaattga cactaaaggg atccgaattc                         757
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<210> 8

<211> 238

<212> PRT

<213> Aequorea victoria

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            20                  25                  30

Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
        35                  40                  45

Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
    50                  55                  60

Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
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65 70 75 80

His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
85 90 95

Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
100 105 110

Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
115 120 125

Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn
130 135 140

Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly
145 150 155 160

Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val
165 170 175

Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
180 185 190

Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
195 200 205

Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val
210 215 220

Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
225 230 235